VIT®

Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

CHEM-REFLECT

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(JULY 2023 – DECEMBER 2023)

NEWSLETTER

SCHOOL OF CHEMICAL ENGINEERING

VELLORE INSTITUTE OF TECHNOLOGY

www.vit.ac.in/schools/scheme

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ABOUT SCHEME

"Making the world a better place by Chemical Engineering"

The School of Chemical Engineering (SCHEME) is determined to nurture new talents and create leaders and entrepreneurs who can bring value addition to the chemical and allied process industries. Besides high quality teaching and instruction at UG level, the faculty members of the school are actively involved in executing a number of R&D and consultancy projects from government agencies including DST, SERB, DBT and also from many reputed industries. The school has also regularly benefited from international linkages facilitated by University-level MoUs with a number of leading foreign universities.

QS WORLD UNIVERSITY RANKINGS

Chemical Engineering Subject Ranking

World Rank(2023): 301-350
India Rank (2023) : 11

Message from THE DEAN SCHEME

Dear Readers,

Welcome to the **volume 3, issue II** of the newsletter of the School of Chemical Engineering.

This issue provides information about the publications and research work of our faculty and students. The awards and honours received, the teaching-learning and research process and much more is explored.

SCHEME houses B. Tech and PhD programmes in Chemical Engineering. All faculty members are doctorates from reputed institutions in India and abroad. We have 24 full-time teachers and 2 adjunct professors teaching a total of 446 students.

Hopefully, this newsletter pleases your attention. You can find an overview of the school's accomplishments in the newsletter, but if you'd like more information, don't hesitate to contact the SCHEME office. You're always welcome.

Regards,

Dr. L.Muruganandam

dean.scheme@vit.ac.in

THE VISION

To improve the quality of life through innovations in Chemical Engineering

• Mission of the School

- ❖ To prepare the graduates for a rewarding career by providing quality education in Chemical Engineering in tune with evolving requirements of society.
- ❖ To impart knowledge and develop technology through quality research in frontier areas of chemical and inter-disciplinary fields.
- ❖ To produce practicing engineers with professional ethics to cater to the contemporary needs of the society and environment.

• Program Educational Objectives of B.Tech Chemical Engineering

- ➢ Graduates will be engineering professionals in industry or in the pursuit of graduate education in chemical engineering and other disciplines.
- ➢ Graduates will be capable to assess and relate engineering issues to meet sustainable development goal and contributing to economic growth.
- ➢ Graduates will function in their profession with strong communication skills to work in diverse multi-faceted team with social awareness and responsibility.

Our Faculty

(School of Chemical Engineering)

Dr. L.Muruganandam
Professor and Dean

Dr. Velu S
Professor and HOD

Dr. Anand V P Gurumoorthy
Professor

Dr. Aruna Singh
Professor

Dr. Babu Ponnusami A
Professor

Dr. Mahesh Ganesapillai
Professor

Dr. Monsah P
Professor

Dr. Nirmala G S
Professor

Dr. Sishir Kumar Behera
Professor

Dr. Thomas Theodore
Professor

Dr. Aabid Hussain Shaik
Associate Professor

Dr. Aslam Abdullah M
Associate Professor

Dr. Chitra D
Associate Professor

Dr. Dharmendra Kumar Bal
Associate Professor

Dr. Ganesh Moorthy I
Associate Professor

Dr. Mohammed Rehaan Chandan
Associate Professor

Dr. Nagamalleswara Rao K
Associate Professor

Dr. Shankar Raman Dhanushkodi
Associate Professor

Dr. Shivagami K
Associate Professor

Dr. Bandaru Kiran
Assistant Professor

Dr. Kuldeep Roy
Assistant Professor

Dr. Pandurangan K
Assistant Professor

Dr. Rima Biswas
Assistant Professor

Dr. Samarshi Chakraborty
Assistant Professor

Research Focus, Facilities & Simulation

Thrust areas:

- Sustainable development, -Separation Technology
- Process & MD Simulation - Nano materials --AI & Machine Learning

Research Groups:

1. Colloids and Polymers :Cutting-edge research initiative at the intersection of colloid science, nano materials and polymer chemistry.

2. Membrane Separation : Revolutionize membrane technologies for diverse applications. Involved in the exploration of advanced materials and fabrication techniques to enhance the performance of membranes across various domains.

3. Industrial Ecology : Sustainable practices within industrial systems, contributing to a paradigm shift toward more environmentally conscious and resource-efficient processes. Focused on developing comprehensive models and frameworks to assess the environmental impact of industrial activities across entire supply chains.

4. Mass transfer/Separation Process : Focused on improving the efficiency of mass transfer processes in various fields, including environmental science and biomedical engineering.

5. Process Modelling & Simulation : cutting-edge research at advancing the field of process simulation and optimization. Developing robust computational models that accurately capture the dynamic behavior of complex industrial processes. The key area of emphasis is the integration of artificial intelligence (AI) and machine learning (ML) techniques into process simulation frameworks. Many students are involved in molecular dynamic simulations.

Simulation Tool

sim INFOSYSTEMS ISO 9001:2015 CERTIFIED

NAMD Scalable Molecular Dynamics

ANSYS

aspentech HYSYS

KAPPA Reservoir

COMSOL

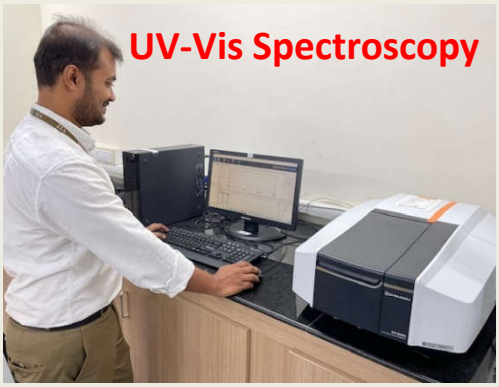
SolidWorks

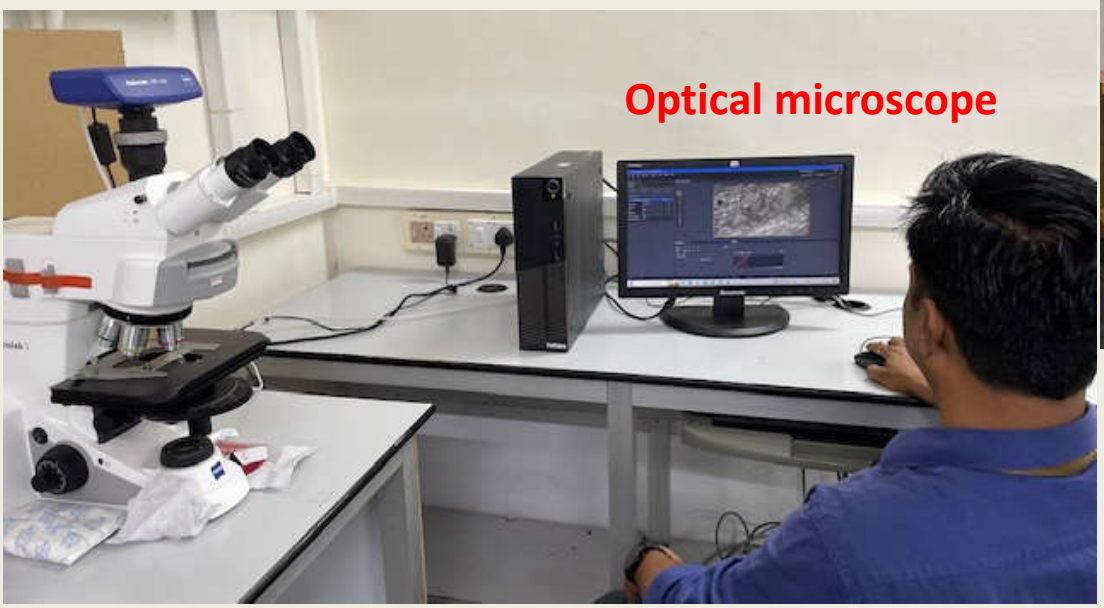
DWSIM Chemical Process Simulator

GROMACS FAST. FLEXIBLE. FREE.

Research Facilities

School of Chemical Engineering





Student Achievements

Dyuthi Thampan (20BCM0021) and Rayhan Hussain (20BCM0103) secured the 1st position in 24 hour hackathon on Carbon Zero Challenge and acquired Student startup venture grant of Rs 4,80,000 for prototyping. The hackathon was organized by the School of Sustainability, IIT Madras, and IEDC- LBS College of Engineering, Kasaragod.

Nimish Khandelwal (21BCM0169) won the Donald F. Othmer Second Year Student Academic Excellence Award by AIChE for the academic year 2022-2023.

Tharnika.S (22BCM0076) bagged the First Prize in Student Regional Conference 2023: K-12 competition(3rd-5th category) at Synergicon organized by Chemical Engineering Society and AIChE, held during 18th - 20th August, 2023 at SVNT Surat.

Sagnik Banerjee (22BCM0084), Karthik Raja ganapathy (22BCM0097), Shruti Maity Achariya (22BCM0091) [Team : Triena Our Best] secured the 1st rank for Chem E Craft at AIChE SRC-SVNIT, held during 18th - 20th August, 2023 at SVNT Surat.

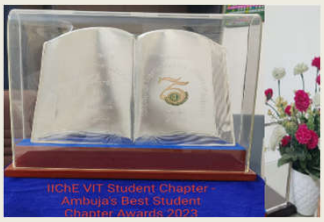
Pritha Jain (22BCM0028) won the first Position at the AIChE Synergicon SRC Undergraduate Student Poster Competition at SVNT Surat.

Aditi Iyer (22BCM0080) bagged the 2nd place at Poster presentation Chem Summit'23 organized by SCHEME and IIChE-VIT in October, 2023.

Shirman K (20BCM0107) bagged the 1st place at Chess Competition, PEGASUS 2023 organized by VIT in September, 2023.

Danfoss Innovator award – 2023/24 was awarded to Team Frost Duo received by Anshul Prateek (22BCM0116) and Sriya Raman (22BCM0110)

• SCHEME Student Chapters & Achievements



Indian Institute of Chemical Engineers, headquartered in Kolkata announces every year the best chapter among the 180 IICHE student chapters from across India. IIChE VIT Student Chapter – bagged IIChE Ambuja Best Chapter award. This award was announced at 75th Indian Chemical Engineering Congress (CHEMCON-2023) held at Kolkata. Faculty Coordinator: Dr. K Sivagami SCHEME

American Institute of Chemical Engineers AIChE 2023 – Outstanding Student Chapter award.

Coordinator: Prof. I Ganesh Moorthy

The Society of Petroleum Engineers (SPE) provide opportunities to exchange information at in-person and online events and through training publications.

Events Organized by SCHEME CHAPTERs

American Institute of Chemical Engineers, Vellore Institute of Technology, Student Chapter has organized 14 events.

Indian Institute of Chemical Engineers, Vellore Institute of Technology, Student Chapter has organized 18 events.

Society of Petroleum Engineers, Vellore Institute of Technology, Student Chapter has organized 08 events.

Gravitas 2023

The 14th edition of graVITas unfolded itself with multiple pre-gravitas and main events. The theme this year was Venture, Inspire, Transform. The chapters of SCHEME participated with great enthusiasm.

American Institute of Chemical Engineers, VIT conducted 2 events -**Bloody Murder** (Modern forensic techniques) and **Suits: Court Quest 2.0** (involved court-room sessions on quizzical financial frauds and industrial disasters).

Indian Institute of Chemical Engineers conducted 2 events : **Rocketry'23** (Design, construct and launch their own rockets) and **Golden Sift** (treasure hunt).

ChemSummit'23

School of Chemical Engineering (SCHEME) in collaboration with IIChE-VIT organized ChemSummit'23 from 27th – 28th October 2023 in VIT Vellore. The motto of the summit was 'Uniting Minds. Igniting Discoveries. Exploring Horizons'. Dr. S Velu, HoD (SCHEME) introduced the Chief Guest – Mr. H Shankar (Technical Director, CPCL), and the Guest of Honor - Mr. V Sriram (Deputy General Manager, CPCL), both of whom delivered speeches, inspiring the gathering and encouraging them to enter the field of Petrochemicals and its evolution. Dr. D Sivakumar, General Manager at RANITEC, who gave a wonderful seminar about the Zero-Liquid Discharge (ZLD) System as well as the other steps they took to reduce the environmental impact RANITEC had on the community.

The summit consisted of Paper presentation and Technical event (Day 1), and Poster presentation (Day 2). The technical event (CHEM-WIZ) had 2 engaging parts - Chemi-wheel and Alchemy Cartel. With around 190 participants from various colleges, the summit was a great success. The sponsors were Classic Engg. Enterprises, Asian paints and Alankar.

The 5th International Conference on Sustainable Technologies for Water and Wastewater Treatment - Technoscape 2023 was organized by Vellore Institute of Technology (India), Yokohama National University (Japan) and Gdansk University of Technology (Poland), from 14th - 16th December, 2023 at VT Vellore. The Chief Patrons were Dr G. Vishwanathan, Vellore Institute of Technology, India, and Dr Izuru Umehara, President, Yokohama National University (YNU), Japan.


புயல் மழையை பார்த்து
நீர்மேலாண்மையை கற்றுக்கொள்ள வேண்டும்

The main goal for the conference was to establish a sustainable environment by bringing together water professionals and providing them with a platform to share their knowledge about advanced and sustainable technologies for water and wastewater treatment, and on modern technologies such as IoT, Remote Sensing and Geographical Information System (GIS).

Partner Universities were National Taipei University of Technology (Taiwan), Johann Heinrich von Thünen Institute (Germany), Universiti Malaya (Malaysia), Ulsan National Institute of Science and Technology (South Korea) and Universiti Tunku Abdul Rahman (Malaysia). In Technoscape 2023, 45 foreigner delegates from 17 countries participated.


HOME / NEWS / INDIA / TAMIL NADU

Need to learn lessons from history to avoid natural disasters, says official

Historians say that manipulation of natural flow of water in the Indus Valley led to flooding and eventually the destruction of civilisation, says Dhanalakshmi

December 14, 2023 08:30 pm | Updated 08:30 pm IST – CHENNAI

THE HINDU BUREAU

COMMENTS SHARE READ LATER

The conference was supported by the following Scopus Indexed Journals: Environmental Science and Pollution Research (ESPR) : Springer Publications; Environmental Monitoring and Assessment (EMAS) : Springer Publications; Chemical Engineering Communications (CEC) : Taylor & Frances. The Conference Chair was Dr Mahesh Ganesapillai (SCHEME, VIT Vellore).

• Semester Abroad Program

Students of Chemical Engineering went to Prof. Shiao-Shing Chen at National Taipei University of Technology under semester abroad program.

The research topics and groups are as follows:

Group-1: Bidisha Mondal (20BCM0088) & Ishita Sarkar (20BCM0073). Title: Enhancing Photocatalytic efficiency: A comparative study on green-synthesized nanoparticles and porous Zno nanofibers for the degradation of organic pollutants

Group-2: Prajwal Poonacha P B (20BCM0094) Title: The Application of spirulina in Wastewater Treatment and Carbon Dioxide absorption - Growth Analysis with artificial intelligence

Group-3: Divya Shivanand (20BCM0055) & Jayyant Kakkar (20BCM0128) Title: Algae assisted MFC using CFA as separator vs Nafion and PTFE

• Student exchange program with YNU Japan

Yokohama National University (YNU), Japan students visit to VIT under student exchange program in Dec 2023

• Scholar Accomplishments

Mr. Lalit Rajaramji Gabhane (20PHD0511)

Mr. Lalit Rjaram Gabhane an EPT Scholar from NSC successfully completed his PhD Viva Entitled: Development of a threat and risk analysis based artificial neural network for chemical explosion (trance) model to predict threat zones in Refineries and LPG terminals.

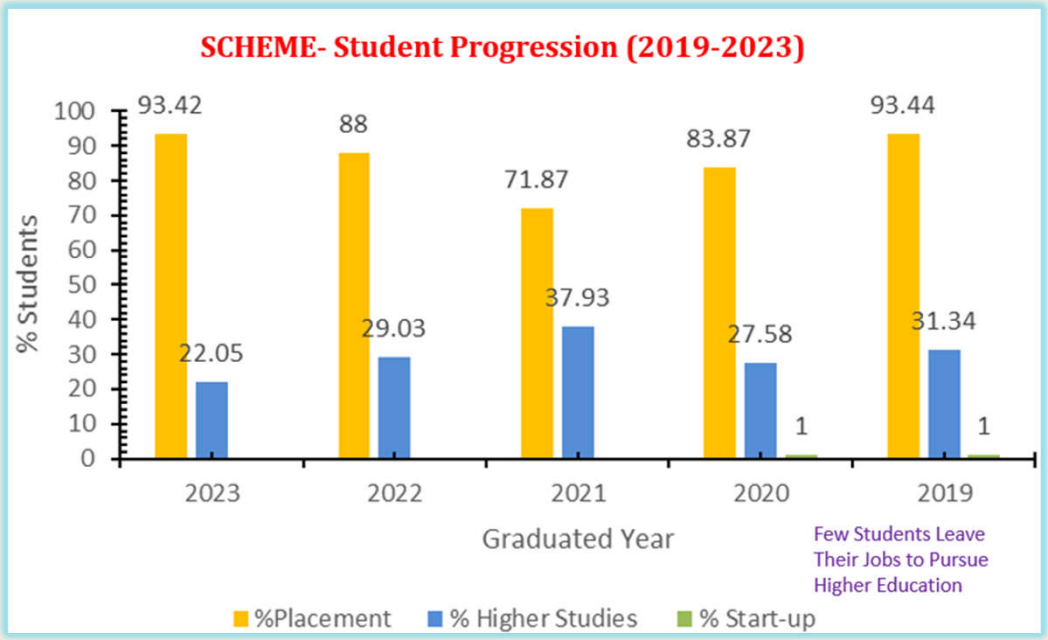
Drisya G Chandran (22PHD0122) received a trophy from Dr. K.T. Shenoy, Director CEG Division, BARC in the national workshop organized by Baba Atomic Research Centre (BARC), Mumbai. December 11-14, 2023.

• Adjunct Professor

Professor G P Rangaiah eminent professor, National University of Singapore, visited SCHEME in the month of December 2023. Few collaborative projects and journal publications are in progress.

• Placements Data till Dec 2023

52% of 2024 graduating students have been placed in CORE companies like Saipem India Pvt Ltd, Ohmium Operations, INEXUS Biotech Pvt Ltd., Reliance, Honeywell Technology Solutions (Super Dream), KPGM, etc., and IT sector companies like Amazon (Super Dream), Flipkart Neev (Super Dream), ET Media Lab, Clear Tax, and others. The Super Dream offer with the highest package being 14 LPA.



SAIPEM

Reliance Industries Limited

ohmium

ET MEDIALABS

KPMG

amazon

Honeywell

Flipkart NEEV

Faculty Achievements

Dr. K. Sivagami of Team Aryabon was selected as one of the 'Top 25 Teams' of the Carbon Zero Challenge 3.0 in December 2022 for prototype funding and recognized as a winner of the startup seed grant at the Carbon Zero Challenge 3.0 Grand Expo held at IIT Madras from the 26th to 28th of July, 2023.

Dr. K. Sivagami was invited as a keynote speaker at the 2nd Two Days International Conference on Sustainable Development Goals organized by the Quality Enhancement Cell, Khwaja Fareed University of Engineering & Information Technology, Pakistan, during 12-13th July, 2023.

Dr. Dhanushkodi S.R., Bansal L and Jaydev Zaveri (student) were awarded certification for their Publication in Scopus Indexed Journal in the month of May 2023 : "Towards machine learning in water treatment: a diagnostic tool for assessing water quality" (RAMAN RESEARCH AWARD)

Dr. Mahesh Ganesapillai attended and gave a keynote address on 'Establishing a Bioeconomy Based on Human Excreta Nutrient Recovery from Human Urine and Feces' at the 3'rd Polish IWA Young Water Professionals YWP Water - Excellent Science and Industrial Development, held from 15 – 17 November 2023 Poznan, Poland.

Dr. M. Aslam Abdullah presented a paper on AI in Food Safety, and won 3rd prize in International Conference "Fostering Insights on Health and Disorders-FIHD 2023" Organized by PG & Research Department of Foods & Nutrition, Biochemistry & Biotechnology of Marudhar Kesari Jain College for Women, Vaniyambadi on 8th September, 2023.

Dr. I. Ganesh Moorthy was a keynote speaker Topic 'Development of agro-waste-based heterogeneous catalyst for the production of biodiesel from used cooking oil' 5th International Conference on Renewable Energy, Sustainable Environmental, Agricultural and Artificial Intelligence Technologies (i-RESEAT) from December 18th to 20th, 2023, at Bangkok, Thailand.

Dr. Rima Biswas was a guest speaker at the DAE-BRNS National Workshop on Atomistic Modeling of Molecules and Materials (AMMM-2023), organized by Chemical Engineering Group, Bhabha Atomic Research Centre in association with Society for Atomistic and Continuum Modeling (SACM), Mumbai during December 11 – 14, 2023.

Research fellowship was granted to Dr. I. Ganesh Moorthy from 15 October 2023 to 31 Dec 2025 by INTI International University in October 2023.

Guest Lectures organized

1. Mr Prosenjit Singharoy, Senior Manager (Standard Chartered Bank, Chennai) delivered a lecture on 'Applications of Python in Industry' on 28th November, 2023. The faculty coordinators for the guest lecture were Dr. Rima Biswas and Dr. Nagamalleswara Rao K.

2. Mr. Sreekanth Mylavarapu, Senior Engineer at Saudi Aramco Jubail Refinery Company, Saudi Arabia., delivered a lecture on 'End to end process equipment maintenance Optimization' on 24th November, 2023, under the faculty coordinators Dr Bandaru Kiran, Dr. Aabid Hussain Shaik and Professor Samarshi Chakraborty.

3. Dr. Uma Sankar Behera, Postdoc researcher at Chonnam National University, Yeosu, South Korea, delivered a lecture on 'Enhancing crude oil recovery through Advance Technology and Instrumentation' on 21st November, 2023. Dr. Chitra D, Dr. Dharmendra Kumar Bal and Dr. Kuldeep Roy were the faculty coordinators for this foreign expert lecture.

3. Dr. Sangeetha Velan, Manager, Research and Development (FLDEC systems Pvt Ltd, Chennai), delivered a lecture on 'Safety and Security Standards in Industry Sector' on 20th November, 2023, under the faculty coordinator Dr. Shankar Raman Dhanushkodi.

4. Mr. Deepak Kumar Biswal, Assistant Professor (VIT Vellore) delivered a lecture on 'Role of Engineering Drawing in Product Development'. The faculty coordinator for the event was Dr. Shankar Raman Dhanushkodi.

5. Dr. Rasesh R Kotdawala, Sr. Manager, Corporate R&D Division (Bharat Heavy Electricals Ltd) delivered a lecture on 'Application of Computational Methods for Developing Clean Coal Technologies' on 27th October, 2023. The faculty coordinator for the lecture was Dr. Shishir Kumar Behera.

6. Dr L Srinivasa Mohan, Distinguished Engineer (NSYS, Pune), delivered a lecture on 'Computational Thinking for Chemical Engineers' on 26th October, 2023. Dr. Anand Veerabadra Prasad Gurumoorthy was the faculty coordinator.

7. Mr. Aswin Venugopal, Industrial data Scientist (Shell India Markets Pvt. Limited, Bangalore) delivered a lecture on 'Importance of Data Science in Chemical Engineering' on 9th October, 2023. Dr. Dharmendra Kumar Bal and Dr. Kuldeep Roy were the faculty coordinators. The lecture was attended by 19 students.

Guest Lectures organized

8. Mr. Aswin Venugopal, Industrial data Scientist (Shell India Markets Pvt. Limited, Bangalore) delivered a lecture on 'Importance of Data Science in Chemical Engineering' on 9th October, 2023. Dr. Dharmendra Kumar Bal and Dr. Kuldeep Roy were the faculty coordinators.

9. Mr Utkarsh Sinha, Associate Research Engineer (Xecta Digital Labs, USA) delivered a lecture on 'Enhancing Unconventional Oil and Gas Management' on 9th October, 2023. Dr. Aslam Abdullah M and Dr. Aruna Singh were the faculty coordinator.

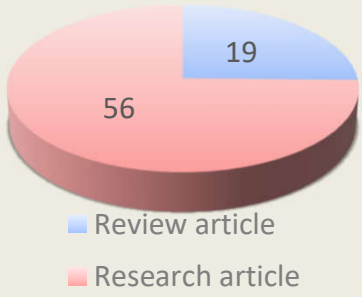
10. Ms. Mounika Majeti, Energy Engineer (West Fraser., British Columbia, Canada) delivered a lecture on 'Emission Management and Sustainability in Oil and Gas Industries' on 6th September, 2023. The faculty coordinators were Dr. Aabid Hussain Shaik, Dr. Mohammed Rehaan Chandan and Dr. Bandaru Kiran.

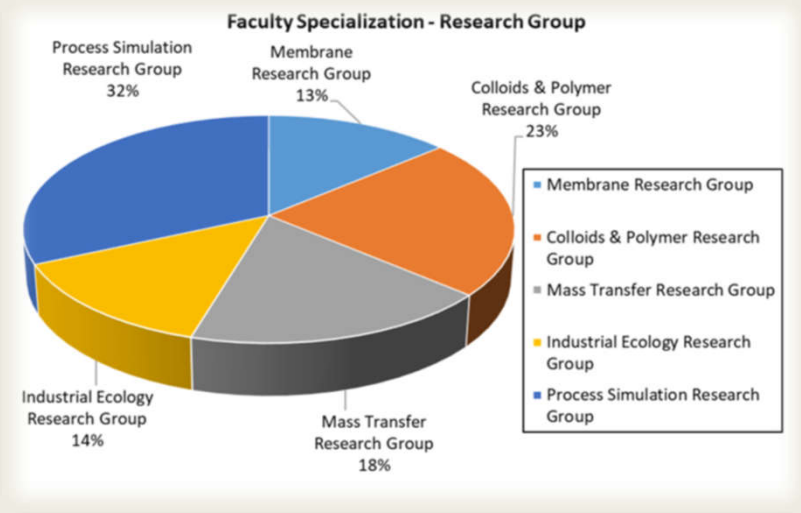
11. Professor Fulvia Chiampo, Associate Professor at Dipartimento di Scienza Applicata e Tecnologia, POLITECNICO DI TORINO, Italy, delivered a lecture on 'Food Process Engineering' on 3rd August, 2023. Dr. Shishir Kumar Behera was the faculty coordinator.

12. Mr. C Subash Chandra Bose, Ex-Vice President (Manali Petrochemicals Ltd.(MPL), Manali) delivered a lecture on 'Industrial Cooling Towers Design Aspects' on 19th July, 2023. The faculty coordinators were Dr. Monash P, Dr. Kuldeep Roy and Dr. Velu S.

13. Dr. Geeta Kumari, Senior scientist at Sardar Patel Renewable Energy Research Institute, Vallabh Vidyanagar, Anand, Gujarat delivered a lecture on 'Bioenergy Production via Thermo-chemical Conversion route: an Industrial aspect' on 17th July, 2023. Dr. Kuldeep Roy, Dr. Rima Biswas and Dr. Ganesh Moorthy were the faculty coordinators.

PUBLICATION Statistics (Calendar Year 2023)





Total number of publications : 79
Article with foreign collaborations : 37
Cumulative Impact factor : 337.5
Highest impact factor : 11.1
Average impact factor : 4.2

Publications by UG Students

1) Negi, B. B., Aliveli, M., Behera, S. K., Das, R., Sinharoy, A., Rene, E. R., & Pakshirajan, K. (2023). Predictive modelling and optimization of an airlift bioreactor for selenite removal from wastewater using artificial neural networks and particle swarm optimization. *Environmental Research*, *219*, 115073.
2) Joseph, A. M., Tulasi, Y., Shrivastava, D., & Kiran, B. (2023). Techno-economic feasibility and exergy analysis of bioethanol production from waste. *Energy Conversion and Management: X*, *18*, 100358.
3) Das, R., Bhasarkar, J., Rastogi, A., Saxena, R., & Bal, D. K. (2023). Artificial neural network-based pore size prediction of alginate gel scaffold for targeted drug delivery. *Neural Computing and Applications*, *35*(6), 4683-4699.
4) Erattemparambil, K., Mohan, L., Gnanasundaram, N., & Krishnamoorthy, R. (2023). Insights into adsorption theory of phenol removal using a circulating fluidized bed system. *Arabian Journal of Chemistry*, *16*(6), 104750.
5) Sharma, Y., Ahmed Khan, M., Chellapandi, T., Tejas Sukumar, M., Madhumitha, G., Rahman Khan, M. M., & Roopan, S. M. (2023). Efficient synthesis of 3D/2D CeO2/MoS2 nanocomposites with enhanced photocatalytic activity to degrade organic dye in wastewater and statistical optimization of reaction parameters. *Inorganic and Nano-Metal Chemistry*, 1-14.
6) Chaudhary, A. S., Kiran, B., Sivagami, K., Govindarajan, D., & Chakraborty, S. (2023). Thermal degradation model of used surgical masks based on machine learning methodology. *Journal of the Taiwan Institute of Chemical Engineers*, *144*, 104732.
7) Ray, S. S., Bashir, M. J., Bakshi, H. S., Kwon, Y. N., & Ganesapillai, M. (2023). Application of Porous Carbon Material for Water Treatment and Gas Storage. In *Handbook of Porous Carbon Materials* (pp. 623-654). Singapore: Springer Nature Singapore.
8) Sivagami, K., Sharma, P., Karim, A. V., Mohanakrishna, G., Karthika, S., Divyapriya, G., & Kumar, A. N. (2022). Electrochemical-based approaches for the treatment of forever chemicals: Removal of perfluoroalkyl and polyfluoroalkyl substances from wastewater. *Science of The Total Environment*, 160440.
9) Karmakar, A., Daftari, T., Sivagami, K., Chandan, M. R., Shaik, A. H., Kiran, B., & Chakraborty, S. (2023). A comprehensive insight into Waste to Energy conversion strategies in India and its associated air pollution hazard. *Environmental Technology & Innovation*, *29*, 103017.
10) Banik, J., Chakraborty, D., Rizwan, M., Shaik, A. H., & Chandan, M. R. (2023). Review on disposal, recycling and management of waste polyurethane foams: A way ahead. *Waste Management & Research*, 0734242X221146082.
11) Subramanian, A., Nagarajan, A. M., Vinod, S., Chakraborty, S., Sivagami, K., Theodore, T., & Mangesh, V. L. (2023). Long-term impacts of climate change on coastal and transitional eco-systems in India: an overview of its current status, future projections, solutions, and policies. *RSC advances*, *13*(18), 12204-12228.
12) Ganesapillai, M., Tiwari, A., Mehta, R., Sinha, A., Sarkar, I., Mondal, B., & Riar, A. (2023). Is the pandemic masking waste management? A review on fallout of the COVID-19 viral contagion. *Green Chemistry Letters and Reviews*, *16*(1), 2164224
13) Mohana Roopan S., Khan M.A. (2023). MoS2 based ternary composites: review on heterogeneous materials as catalyst for photocatalytic degradation. Catalysis Reviews - Science and Engineering, 1962493
14) Aditya M.N.; Chellapandi T.; Manjupriya R.; Prasad G.K.; Roopan S.M.; Vijayaganapathi A.; Vaithilingam M.; Chitra D (2023). Rational design of g-C3N5/Gd2O3/MoS2 ternary nanocomposite for visible light mediated environmental remediation. Chemical Engineering Research and Design, 198 (pp:138-150)
15) Abdullah M.A.; Gupta A.; Roy R, Aseel A (2023). Analysis of Performance in Homogenous Mixing Systems Using Ansys. Recent Innovations in Chemical Engineering, Vol:16 (2, pp: 135-146).

• Publications by UG Students

15. Abdullah M.A.; Gupta A.; Roy R, Aseel A (2023). Analysis of Performance in Homogenous Mixing Systems Using Ansys. Recent Innovations in Chemical Engineering, Vol:16 (2, pp: 135-146) 24055204166662305250959 59
16. Biswas R.; Metya A.K, Abebe K.M.; Gedf S.A.; Melese B.T (2023). Carbon dioxide solubility in choline chloride-based deep eutectic solvents under diverse conditions. Journal of Molecular Modeling, 29(8)
17. Sasidhar K.B.; Arkin G.; Gowtham G.; Somasundaram M.; Vuppaladadiyam A.K (2023). Conversion of waste ship-oil sludge into renewable fuel: Assessment of fuel properties and techno-economic viability of supplementing and substituting commercial fuels. Journal of Cleaner Production, 427, 139362
18. Abdullah M A., Roy R., P V S., Krishnan O K., A.A, Joseph J. (2023). Analysis of pipe sticking due to wellbore uncleanliness using machine learning. Heliyon, 9(12), 22366
19. Karthick C., Chatterjee D., Gupta N., Saxena P., Sivagami K., Jeevanantham A.K., Kasianantham N., Shaik S., Asif M., Khan S.A., A?bulut ?. Environmental, combustion, and performance investigation of low viscous biofuel in port fuel injection spark-ignition engine., Journal of Thermal Analysis and Calorimetry
20. Kumari R., Harshan K., Rajan P., Rajan A.P., Theodore T (2023). Screening of Bacterial Isolates from Coal Mining Region in Chhattisgarh. Environmental Science and Engineering, F272 (pp: 99-112)
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Patents

Patents (Filed Or Published) For The Academic Year 2022-23:

1) 'Polymer-based Nanocomposite Membrane for proton conductivity in Electrochemical system and method for producing the same'; 16th November, 2023; Filed. Inventors: Mohammed Rehaan Chandan (SCHEME), Aabid Hussain Shaik - (SCHEME), Babu Ponnusami A (SCHEME), Mohammed Rizwan (PhD student, SCHEME), Jenani R (SPORIC)

2) 'Zn-Al layered double hydroxide infused microporous polyurethane foam for textile effluent treatment';11th October, 2023; Published. Inventors: Aabid Hussain Shaik - (SCHEME), SAMARSHI Chakraborti (SCHEME), Bandaru Kiran(SCHEME), Mohammed Rehaan Chandan (SCHEME)

Patents granted:

1) 'Intelligent Urinary Catheter Bag Support'; 23rd July, 2023; Granted. Inventors: Shishir Kumar Behera (SCHEME), Niranjana Behera (SMEC), Raja Singh R (SELECT);

2) 'Polyol Composition for Synthesizing Polyurethane foam'; 19 July-2022; Granted. Inventors: Mohammed Rehaan Chandan (SCHEME), Aabid Hussain Shaik (SCHEME), Mohammed Rizwan (PhD student, SCHEME)

3) 'Ethylene Propylene Diene Monomer (EPDM) Hybrid Composite For High Voltage Outdoor Insulation Application'; 17 June-2022; Granted. (Inventors: Mohammed Rehaan Chandan (SCHEME), Aabid Hussain Shaik (SCHEME), Mohammed Rizwan (PhD student, SCHEME)

• MoU's with industries

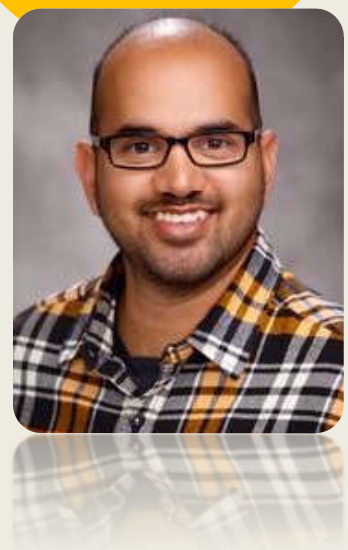
MoU was signed between SCHEME, VIT & Mahashank Bio Energy, Ranipet, Tamilnadu on 15th December 2023 for collaborative research work on sustainable bio energy, manpower training.

• Project sanctioned

Dr. Sivagami K has received a project from the Centre for High Technology, Ministry of Petroleum and Natural Gas with project tilted " Studies on conversion of Multi layer Plastics to Value Added Products" with a value of " 65.34 lakhs" with IIT Madras, CPCL, ITC and Waste Chakra, Chennai.

MoU has been signed between these partners on 4th October 2023 to execute the project. VIT will get 50% of the funding in the project value.

Know our Alumni



Dr. Aashish Priye is working as the Assistant Professor, Department of Chemical Engineering, University of Cincinnati, USA. A scientist skilled in biophysics, microfluidics, CFD and other fields, he graduated from VIT Vellore in 2009. He pursued his doctoral studies from Texas A&M. This year he was awarded with the NSW CAREER Award.

Dr. Ganesh P is the Deputy Project Manager at ISRO Propulsion Complex, Odisha. He is an alumnus of the 2003 batch, SCHEME.

Dr. D. Chitra Associate professor of Chemical Engineering in School of Chemical Engineering, VIT Vellore. Also **Alumni Coordinator** can be reached by email dchitra@vit.ac.in

She is an alumnus of the 1994 batch, SCHEME.

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